

REMARKS

Claims 1-15 were presented for examination. The Office Action indicates that:

(a) The Drawings were objected to under 37 CFR 1.83(a);

(b) Claims 1-4 and 6-15 were rejected under 37 CFR 102(b) as being anticipated by US Patent No. 4,691,080 to Reinhart et al.; and

(c) Claim 5 was rejected under 37 CFR 103(a) as being unpatentable over Reinhart et al. in view of US Patent No. 5,785,544 to Linden et al.

Original Claims 1-15 are presented for reconsideration. Claim 1 has been amended and Claims 2-15 are unchanged. Also, Figure 1 and the specification have been amended. It is respectfully submitted that the application as amended satisfies the requirements of the patent statute and implementing rules. Accordingly, reconsideration of this application in view of the above amendments and the following remarks is requested.

DRAWING OBJECTION

In response to the Examiner's drawing objections under 37 CFR 1.83(a), the Applicant proposes to amend Figure 1 in order to illustrate:

(1) A threaded joint between housing section 14 and housing section 16 (which is generally shown at the top and bottom of the joint below Reference Number 18) as recited by Claim 5 and

discussed in the specification in the paragraph beginning at page 5, line 6; and

(2) A crimp bucket 21 at the interface between wires 32 and electrical pins 20 as recited by Claim 12 and discussed in the above substituted paragraph that begins in the specification at page 4, line 18.

The Applicant will submit a formal drawing including these amendments upon an indication from the Patent Examiner that the proposed changes are acceptable.

PRIOR ART REJECTIONS UNDER 35 USC 102(b) AND 103(a)

Preliminarily it is noted that the Applicant has invented an improved electrical connector that detachably connects a first conductor to a second conductor. The Applicant's connector was designed for readily connecting thermocouple wires with electrical cables in hot, highly radioactive environments around nuclear reactor pressure vessels, which vessels must be opened every one to two years (and the thermocouple/cable connectors detached and, if necessary, replaced) so that the reactor can be refueled.

As is broadly recited by Claim 1, the Applicant's improved connector is comprised of first and second housing sections with an elongated pin extending through both sections, wherein the second housing section is designed to support the elongated pin and to detachably connect with a second connector and the elongated pin is designed to electrically interface with a pin of the second connector. Advantageously, the first end of elongated

pin can be readily accessed before the second housing section 16 is joined with the first housing section 14. This permits wires 32 to be connected with pins 20, epoxy seal 12 applied and spacer 22 installed. The two housing sections 14 and 16 may be readily joined. See, in this regard, the specification at page 5, lines 20-28. Then, the connector may detachably connected with a second connector. As shown in the Figures, the connectors extending from the thermocouples and the electrical cables may be held against a gasket 130 by a coupling nut 126 engaged with threads of receptacle 26.

It is noted that the Applicant has amended Claim 1 to recite that the longitudinal section of the first housing section extends from a first end to a second end in order to provide express support for a later recitation in Claim 1 that the second housing section extends from the second end of the first housing section.

It is respectfully submitted that Reinhart et al. does not anticipate Claim 1. As analyzed by the Patent Examiner, Reinhart et al. discloses a connector having a first housing section 10 and a second housing section 14, the sections having ends with abutting surfaces that are prepared to be joined. However, Reinhart et al. discloses a connector having but one integral housing member, which member necessarily does not have ends with abutting surfaces that are prepared to be joined. The Applicant's connector is comprised of two members that can be readily joined together after a cable end is connected to the elongated pins and the epoxy and spreaders applied. Advantageously, one or both

connectors may be replaced or repaired. For example, after the connectors have been separated during a refueling outage, the first and second housings of one of the connectors could be separated and the epoxy, spreader and wire/pin connection readily inspected. The connector may then be readily re-assembled and detachably interconnected with its mating connector.

The Applicant notes that the Patent Examiner's analysis of Claim 3 suggests the possibility that the Patent Examiner views Reinhart et al.'s plug 12 as a "second housing section". Assuming this is the case, the Applicant would also note that the plug 12 does not have a "second end that is formed to be detachably connecting to a mating second electrical connector"; rather plug 12 is welded 36 to metal sheath 28. In addition, the wires are looped and welded together 58 and the receptacle 10 and plug 12 are welded to the sheaths at 50 and 36. Further, the plug 12 does not support a pin extending from the first conductor. In addition, it should be noted that Reinhart et al. does not employ pins, but loops and welds wires.

In either case, the Reinhart et al. connector assembly is not designed to be detachable and each assembly would have to be disassembled and re-assembled every time the nuclear reactor was refueled.

Claims 2-12 depend from Claim 1 are not anticipated by Reinhart et al. for the same reasons.

With regard to the rejection of Claim 5 based upon the combination of Reinhart et al. and Linden et al., it is noted that: Reinhart et al. discloses a weld 44 to hermetically seal a receptacle 10 and a plug 12; and Linden et al. discloses a threaded joint between housing sections. It is respectfully submitted that there is no suggestion or teaching to substitute a threaded joint for a welded joint in Reinhart et al. or provide threads at a welded joint. Thus it is submitted that Claim 5 is not rendered unpatentable by the referenced patents.

Claim 13 is directed at the method of detachably connecting a first cable to a second cable. It is respectfully submitted that Reinhart et al. does not anticipate Claim 13, if only because Reinhart et al. does not detachably connect cables. Rather Reinhart et al. welds the various pieces together to obtain a hermetic seal and welds the wires to obtain good electrical contact. In addition, Reinhart et al. does not disclose the step of providing a second housing section supporting a pin.

Claims 14 and 15 depend from Claim 1 and are not anticipated by Reinhart et al. for the same reasons.

CONCLUSION

Thus, it is respectfully submitted that the presented Claims are patentable. Accordingly, their allowance is respectfully requested.

The Commissioner is authorized to charge any additional fees required by 37 CFR 1.16 or 37 CFR 1.17 as a result of this Reply to Deposit Account No. 50-0947.

Respectfully submitted,

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